Autoantibodies: The mystery revealed

Connective Tissue Diseases

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Firstly described in **1999** in two patients with interstitial lung disease (**ILD**) and no evidence of myositis

- **Family:** Anti- aminoacyl t-RNA synthetases autoantibodies
- **Antigen target:** Asparaginyl-tRNA synthetase (AsnRS)

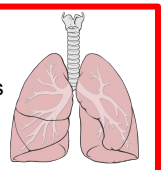
Anti-KS antibodies

- Myositis-specific autoantibodies
- Prevalence in antisynthetase syndrome (ASS): **1%** to **8%**
- **Clinical features of patients with anti-KS antibodies** (listed in descending order of frequency):

1- **ILD** is the most frequent manifestation
2- Mechanic's hands
3- Arthritis
4- Raynaud's phenomenon
5 -Skin rash
6- Myositis

- In a review examining key aspects of detecting anti-KS antibodies and the clinical features linked to their presence, malignant tumors have been observed in 3 of 27 patients with anti-KS antibodies, it is uncertain whether these cancers are associated with anti-KS syndrome, as they occurred at different times—either before the syndrome's onset or up to 7 years after diagnosis.

Anti-KS and ILD:



- The incidence of isolated ILD (without any clinical features of myositis) in patients with anti-KS antibodies is higher than in other types of ASS.
- **The most common ILD patterns:**
  usual interstitial pneumonia and non-specific interstitial pneumonia
- ASS with anti-KS antibodies is characterized by **a good response** to glucocorticoid treatment and chronic clinical course.

Screening techniques:

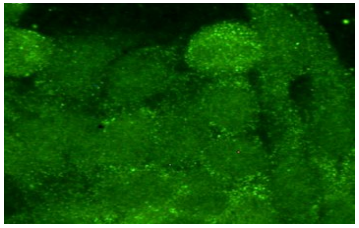
- **Indirect Immunofluorescence (IIF) on HEp-2 cells**

- **Limitations:** Lack of sensitivity for detection due to a weakened signal caused by low antigen expression, low antibody affinity, and the applied serum dilution.

In the presence of suggestive clinical signs, it is crucial to detect this antibody using immunoenzymatic methods like ELISA or Line/dot blot immunoassays

- **ELISA screen (Jo-1, PL-7, PL-12, EJ and KS)**

IIF pattern on HEp-2 cells:
fine speckled Cytoplasmic pattern.



Confirmation techniques:

1- Immunoprecipitation (IP) of radiolabeled proteins
gold standard method, but not well-suited for routine use.
2- Immunoenzymatic methods:
Line/dot blot Immunoassay: is more specific than IIF on HEp-2 cells

References